Shock Initiation of 2,4-Dinitroimidazole (2,4-DNI).* P. A. Urtiew, C. M. Tarver, R. L. Simpson, Lawrence Livermore National Laboratory.--- The shock sensitivity of the pressed solid explosive 2,4-dinitroimidazole (2,4-DNI) was determined using the embedded manganin pressure gauge technique. At an initial shock pressure of 2 GPa, several microseconds were required before any exothermic reaction was observed in 2,4-DNI. At 4 GPa, 2,4-DNI reacted more rapidly but did not transition to detonation at the 13 mm gauge position. At 6 GPa, detonation occurred in less than 6 mm of shock propagation. Thus, 2,4-DNI is significantly less shock sensitive than HMX-based explosives and more sensitive than TATB-based explosives. Ignition and Growth reactive flow computer model parameters for 2,4-DNI were established for use in estimating its shock initiation properties under other initial conditions.

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